



## MASTER COURSE OUTLINE

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## COURSE TITLE

Non-Lab Science

## GENERAL COURSE INFORMATION

Dept.: HSC

Course Num: 021

(Formerly:)

CIP Code: 32.0240

Intent Code: 12

Program Code: N/A

Credits: 0.5-1

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 55

Lab Hrs: 0

Other Hrs:

Distribution Designation:

## COURSE DESCRIPTION (as it will appear in the catalog)

This non-lab course provides basic instruction in physical, life and earth science, necessary for high school graduation.

High school completion credit only.

## PREREQUISITES

Students must be enrolled in a Basic Skills class and have taken the CASAS pre-test

## TEXTBOOK GUIDELINES

Instructional materials as determined by the instructor

## COURSE LEARNING OUTCOMES

*Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:*

- Demonstrate an understanding of life science including structure and function of living organisms, processes within cells, ecosystems, stability of populations, and the mechanisms of evolution.
- Demonstrate an understanding of physical science including force and motion, newton's laws, matter, chemical reactions, and transformation and conservation of energy,
- Demonstrate an understanding of earth science including evolution of the universe, earth systems, and evolution of the earth

## INSTITUTIONAL OUTCOMES

None

## COURSE CONTENT OUTLINE

- Life Science (two of the following topics)
  - Characteristics and Organization of Life
  - Genetics, DNA and Human Biology
  - Introduction to Evolutionary Theory and Natural Selection
  - Ecosystems
  - Cells: Their Structures and Functions

- Physical Science (two of the following topics)
  - General and Organic Chemistry
  - Classifying Chemical Reactions
  - Solutions and Mixtures
  - Energy
  - Newton's laws of force and motion
  - Atoms, Elements, Isotopes, Ions, and The Periodic Table
- Earth Science (two of the following topics)
  - Environmental Science and Natural Resources including Renewable Energy
  - Water Cycle and Water Necessity for Life
  - Basic Geology and Geological Forces
  - Plant Earth and the Earth Building Processes
  - Weather, Clouds, Atmosphere, Heat and Thermal Energy
  - Evolution of the earth and/or the universe

### DEPARTMENTAL GUIDELINES

This course will satisfy one high school general science (non-lab) credit for HS21. Independent study may be approved by instructor on a topic related to physical, life or earth science.

College and Career Readiness Standards (CCRS) for BEdA Program: Instruction is aligned to the following CCR Standards:

D-E in Reading based on the CCRS Anchors:

- 1 (Read closely to determine what the text says explicitly and to make logical inferences from it),
- 2 (Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas),
- 3 (Analyze how and why individuals, events, and ideas develop and interact over the course of a text),
- 4 (Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone),
- 5 (Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text [e.g., a section, chapter, scene, or stanza] relate to each other and the whole),
- 6 (Assess how point of view or purpose shapes the content and style of a text),
- 7 (Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words),
- 8 (Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence),
- 9 (Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take, and
- 10 (Read and comprehend complex literary and informational texts independently and proficiently).

D-E in Writing based on the CCRS Anchors:

- 1 (Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence),
- 2 (Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content),
- 3 (Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences),
- 4 (Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience),
- 5 (Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach),
- 6 (Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others),
- 7 (Conduct short as well more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation),
- 8 (Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism), and

- 9 (Draw evidence from literary or informational texts to support analysis, reflection, and research).

D-E in Math based on the CCRS Anchors:

- 1 (Make sense of problems and persevere in solving them)
- 2 (Reason abstractly and quantitatively)
- 3 (Construct viable arguments and critique the reasoning of others)
- 4 (Model with mathematics)
- 5 (Use appropriate tools strategically)
- 6 (Attend to precision)
- 7 (Look for and make use of structure)
- 8 (Look for and express regularity in repeated reasoning)

D-E in Speaking and Listening based on the CCRS Anchors:

- 1 (Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively),
- 2 (Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally),
- 3 (Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric),
- 4 (Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and organization, development, and style are appropriate to task, purpose, and audience),
- 5 (Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations), and
- 6 (Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate).

D-E in Language based on the CCRS Anchors:

- 3 (Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening),
- 4 (Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate), and
- 6 (Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering a word or phrase important to comprehension or expression).

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**DIVISION CHAIR APPROVAL**

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**DATE**